Investing in British Columbia agriculture and its people.

Agri-Food Regional Development Subsidiary Agreement 1985 - 1990

A joint program of the governments of Canada and British Columbia.

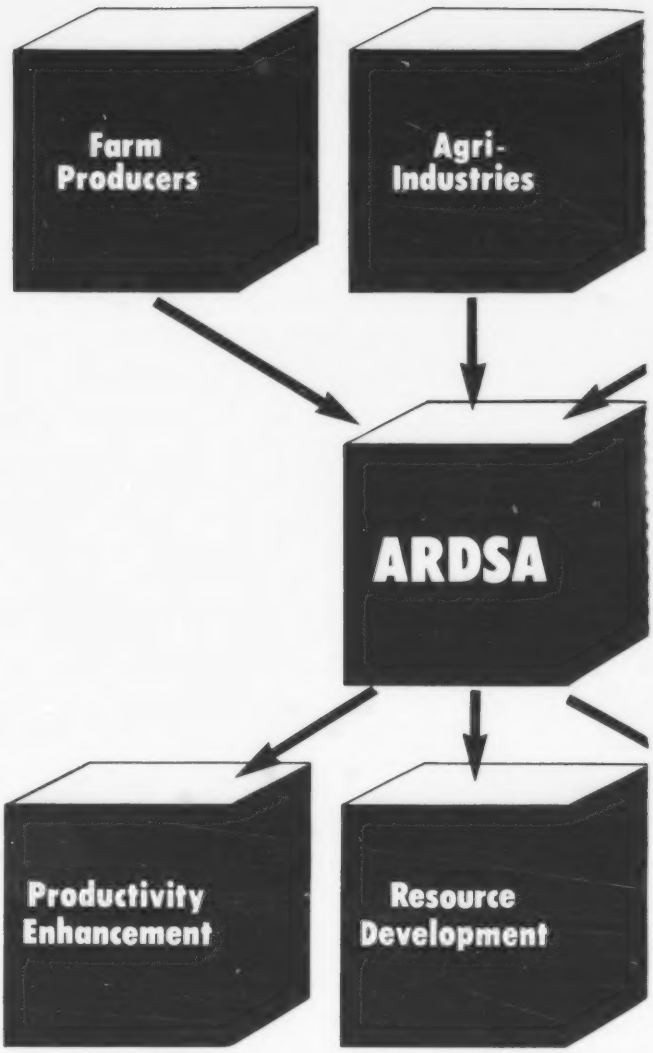
92-00064/

There are people who care for the land, till it, make crops grow. There are others who take the fruits of this labour and add value to it. And finally there are all those Canadians who benefit from the bounty of this $4 billion British Columbia industry.

B.C. agriculture is more than an industry. It fills dinner plates — it is a lifeline. By the same token, farmers are not only business people. They are stewards of the land. They care for it and in a very real way care for the people of British Columbia.

Recognizing the significance of their role, the federal and provincial governments signed the Agri-Food Regional Development Subsidiary Agreement (ARDSA) in 1985. Through this program, Agriculture Canada and the B.C. Ministry of Agriculture and Fisheries each contributed $20 million to fund projects that enhance B.C. agriculture.

This booklet describes the comprehensive approach of the ARDSA program by profiling some specific projects, and listing all projects funded between 1985 and 1990.



Areas of funding:
- **Technology development.**
- **Technology transfer.**
- **Market and new product development.**
- **Farm and agri-business education.**
- **Commodity and program planning.**

Areas of funding:
- **Regional irrigation and water supply systems.**
- **Watershed drainage systems for agriculture.**
- **Soil conservation and improvement.**
- **Water conservation and improvement.**

reas of funding:
Commodity
hancement.
New and expanded
arket facilities.
Agricultural
pport facilities
d services.

Government Partnership

"When consumers think of food, many are thinking of the supermarket," explains Don Mazankowski, federal Minister of Agriculture. "The truth is, behind every edible product on the supermarket shelf, be it fruits, vegetables, poultry, meats, eggs, or cheese, lies a complex system, at the heart of which is the farmer."

Harry De Jong, B.C. Minister of Agriculture and Fisheries, agrees: "Agriculture in this province is big business. It employs thousands, is the third largest resource industry in British Columbia and brings more than $4 billion into our economy every year."

To help meet the many challenges facing B.C. agriculture, the two levels of government established ARDSA. It was intended to conserve and improve B.C.'s agricultural resource, increase economic development, create additional employment, and improve the industry's competitiveness.

De Jong continues, "To date the results have been very positive. Nearly 400 projects have been funded. ARDSA has been an innovative program with a comprehensive approach. It has dealt not only with the nuts and bolts of farm production, but the surrounding issues as well — technology, education, new market development, soil conservation and many others."

Mr. Mazankowski concludes: "Both Mr. De Jong and I feel ARDSA has shown what strong partnership between the governments of Canada and British Columbia and the farming community can accomplish. In fact, the spirit of cooperation has been key to the success of the national review of agriculture policies and programs. Together, governments and industry are making remarkable progress towards a stronger, more secure and more competitive agri-food sector."

Canada BC

B.C. agriculture is faced with increasing competition around the world. To aid competitiveness, ARDSA funded many projects to enhance farm productivity. Within this area, there were five general categories of funding.

Technology development assistance funded projects which explored the use and value of new technologies and research developments.

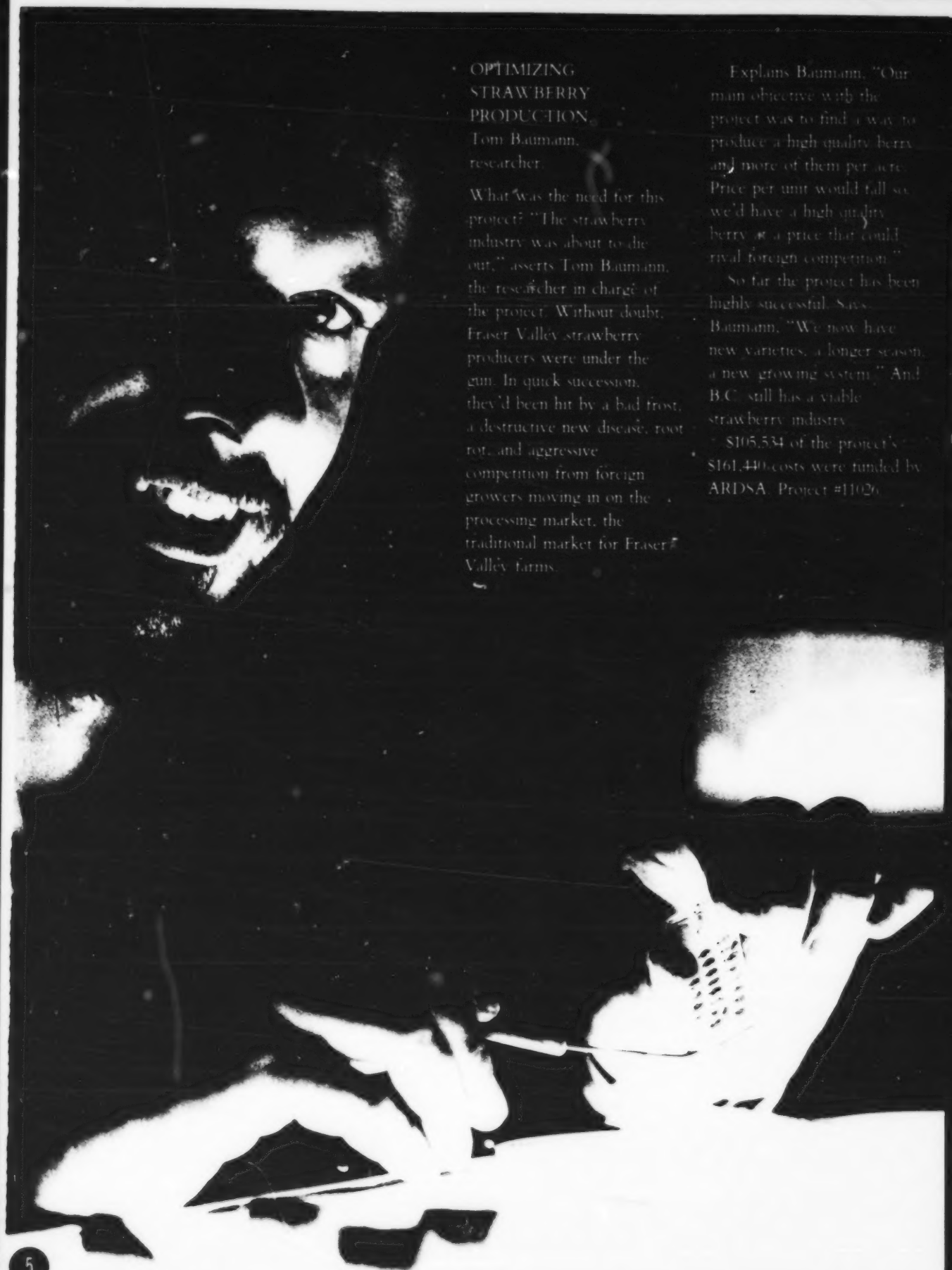
Technology transfer projects demonstrated or encouraged adoption of new technologies — such things as new crops, harvesting systems, feeding technology and more.

Market and new product development assistance helped individuals, companies, and producer groups in identifying new domestic or foreign market opportunities for existing and new products of B.C. agriculture.

Farm and agri-business education projects funded institutions and organizations to provide new training courses in business management, marketing of agricultural products, and new production techniques.

Commodity and regional planning projects were funded to assist industry in determining their current position in the food production system, locally and globally, and to assist in providing the basis for future directions.

The following are specific examples from these areas. A full listing of productivity enhancement projects is included on pages 18 to 20.



OPTIMIZING STRAWBERRY PRODUCTION

Tom Baumann, researcher

What was the need for this project? "The strawberry industry was about to die out," asserts Tom Baumann, the researcher in charge of the project. Without doubt, Fraser Valley strawberry producers were under the gun. In quick succession, they'd been hit by a bad frost, a destructive new disease, root rot, and aggressive competition from foreign growers moving in on the processing market, the traditional market for Fraser Valley farms.

Explains Baumann, "Our main objective with the project was to find a way to produce a high quality berry and more of them per acre. Price per unit would fall so we'd have a high quality berry at a price that could rival foreign competition."

So far the project has been highly successful. Says Baumann, "We now have new varieties, a longer season, a new growing system." And B.C. still has a viable strawberry industry.

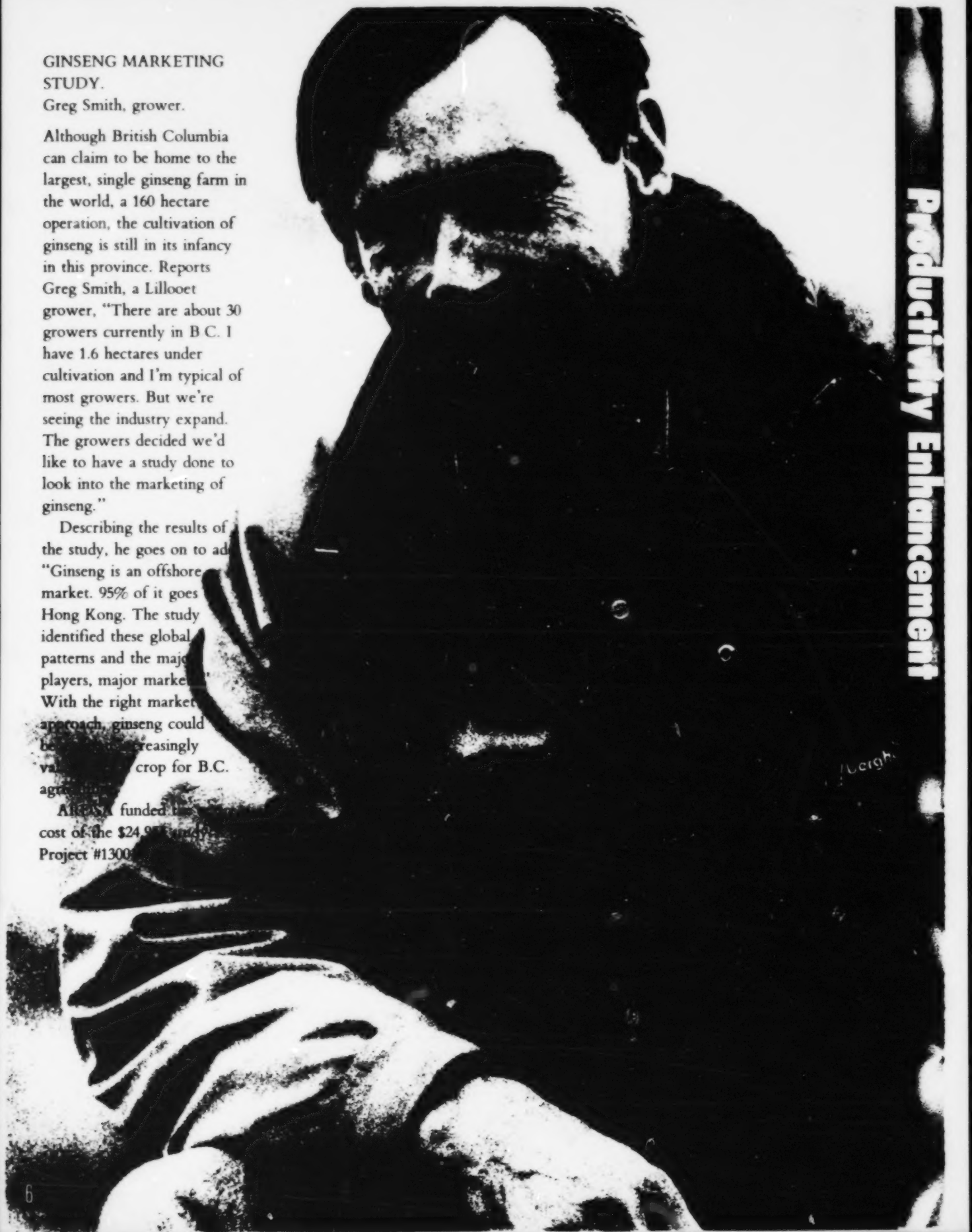
$105,534 of the project's $161,440 costs were funded by ARDSA. Project #11026.

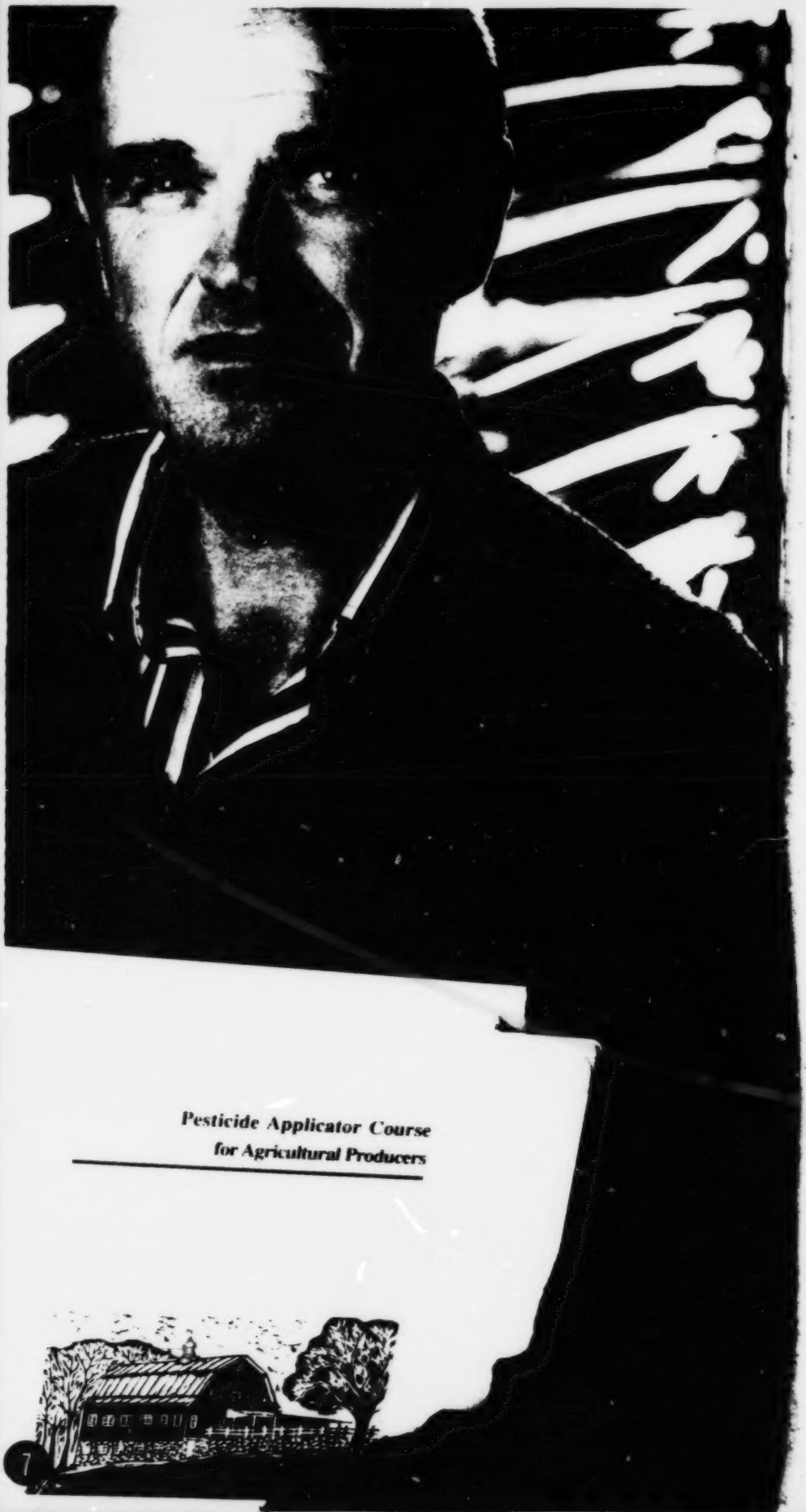
GINSENG MARKETING STUDY.
Greg Smith, grower.

Although British Columbia can claim to be home to the largest, single ginseng farm in the world, a 160 hectare operation, the cultivation of ginseng is still in its infancy in this province. Reports Greg Smith, a Lillooet grower, "There are about 30 growers currently in B C. I have 1.6 hectares under cultivation and I'm typical of most growers. But we're seeing the industry expand. The growers decided we'd like to have a study done to look into the marketing of ginseng."

Describing the results of the study, he goes on to ad "Ginseng is an offshore market. 95% of it goes Hong Kong. The study identified these global patterns and the majo players, major marke With the right market approach, ginseng could be increasingly va crop for B.C. agri

AR[illegible] funded t cost of the $24.9[illegible] Project #1300





PESTICIDE APPLICATOR'S COURSE

Helmut Sawatzky, berry grower and BCFA representative.

To protect the health of the environment and agricultural workers, farmers will be required by 1992 to have an applicator's certificate to apply restricted chemicals to their crops. To ensure there is an adequate course of certification readily available to growers, the B.C. Federation of Agriculture (BCFA), the Open Learning Agency, and relevant government ministries and agencies pooled resources and expertise to develop a certification course. Explains Helmut Sawatzky, an Abbotsford berry grower and the BCFA representative on the project, "Simply, it's a course to educate farmers about the safe and proper use of pesticides, and their proper disposal." The course is available to educational institutions and as a home study package. "It's hoped," Sawatzky points out, "that berry, vegetable, treefruit, and greenhouse producers will use the course to lessen the impact of pesticides on human health and the environment."

ARDSA contributed $21,000 towards the $81,000 development costs. Project #14005.

Soil and water — the vital raw materials for agriculture. Given their importance in maintaining healthy farms, the ARDSA program worked hand in hand with local governments to fund numerous projects in the resource development category. Project funds were awarded in four distinct areas.

Regional irrigation and water supply assistance was geared toward developing water supply and its delivery to the 'farm-gate'.

Watershed drainage systems were improved through a variety of ARDSA funded projects. These included programs to improve water drainage, reduce crop damage from floods, improve ditches, pumphouses, and the like.

Soil conservation and improvement projects fostered the establishment of farm conservation groups, soil studies, projects demonstrating erosion control methods, and other on-farm soil improvement practices.

Water conservation and improvement projects were aimed chiefly at small dam improvement and water system development.

All resource development projects are listed on pages 21 and 22.

IRRIGATION DAM, LAC LA HACHE. Wayne Gardner, cattle rancher.

"Well, basically, we rebuilt the old dam on Lac La Hache by putting in a new steel structure," says Wayne Gardner. All together Gardner and the six other water licensees on the lake use the stored water to irrigate approximately 800 hectares. He adds, "I use the water to irrigate about 400 hectares, mostly alfalfa — winter forage for my cattle."

By virtue of the dam, the water licensees have been able to maintain a stable water flow in the San Jose River, solving some potential environmental problems.

$26,542 of ARDSA funds were involved in the project. Total costs were $35,389. Project #21016.

COURTENAY FLATS DRAINAGE

Craig Flemming, Director of Engineering (retired), Regional District of Comox Strathcona

About 50 years ago, a road was built between Comox and Courtenay. As it passes through the Courtenay Flats, 230 hectares of class 1 agricultural land, it acts as a dike, protecting the Flats from Courtenay River floods and high ocean tides. When the road was built, a flood box was installed to allow the Flats to drain. Among other problems, explains Craig Flemming, "At high tide, the box was allowing saltwater to contaminate upstream. Crops affected, yields reduced, that kind of thing. Five of the local farmers got together to ask for help."

The result was the installation of an improved, year-round water management system to replace the deteriorating flood box. $233,740 of ARDSA funds were used to help finance the $311,718 installation.

Flemming describes several of the benefits resulting from the new water management system. "It keeps the saltwater from backing up into the freshwater at high tide. In spring, we can now keep a certain amount of water in to let the farmers irrigate their fields. In summer, we can accommodate the needs of the fish." In addition, soil degradation is reduced and improved crop yields are possible. Project #22009

Resource Development

RANGE WATER

Jim and Elaine Haywood-Farmer, ranchers.

"Three, four, years ago, we were in quite a drought situation," says Jim Haywood-Farmer of his cattle ranch, about 25 kilometres west of Kamloops. He adds bluntly, "We had to get some range water to stay alive."

ARDSA contributed $4,519 to develop some naturally occuring springs on the ranch, piping the water to the stock. "Made a big difference," he says.

Total project costs were [illegible] Project #24002-11.

PEACE RIVER SOIL CONSERVATION ASSOCIATION
Sandra Burton, soil conservationist
Ron Molson, farmer

The Association, a group of fifteen farm families in the Peace River country, have been working with Sandra Burton, a soil conservationist. "The purpose of the project is to demonstrate that conservation farming techniques can preserve both the health of the soil and be economically viable."

Area farmers like Frank Breault, Cyril Nobbs, and Ron Molson have adopted new conservation techniques, such as zero-till. Explains Ron Molson, "It's really a method using specialized equipment to put the seed into last year's standing stubble."

The Molson family runs a zero-till farm and soil erosion on their farm has been reduced. "It may take years before we see direct effects on soil tilth and crop yields", says Ron. "But I think it's definitely worth it in the long term."

ARDSA funded $407,100 of the $504,000 project. Project #2300.

Commodity Development

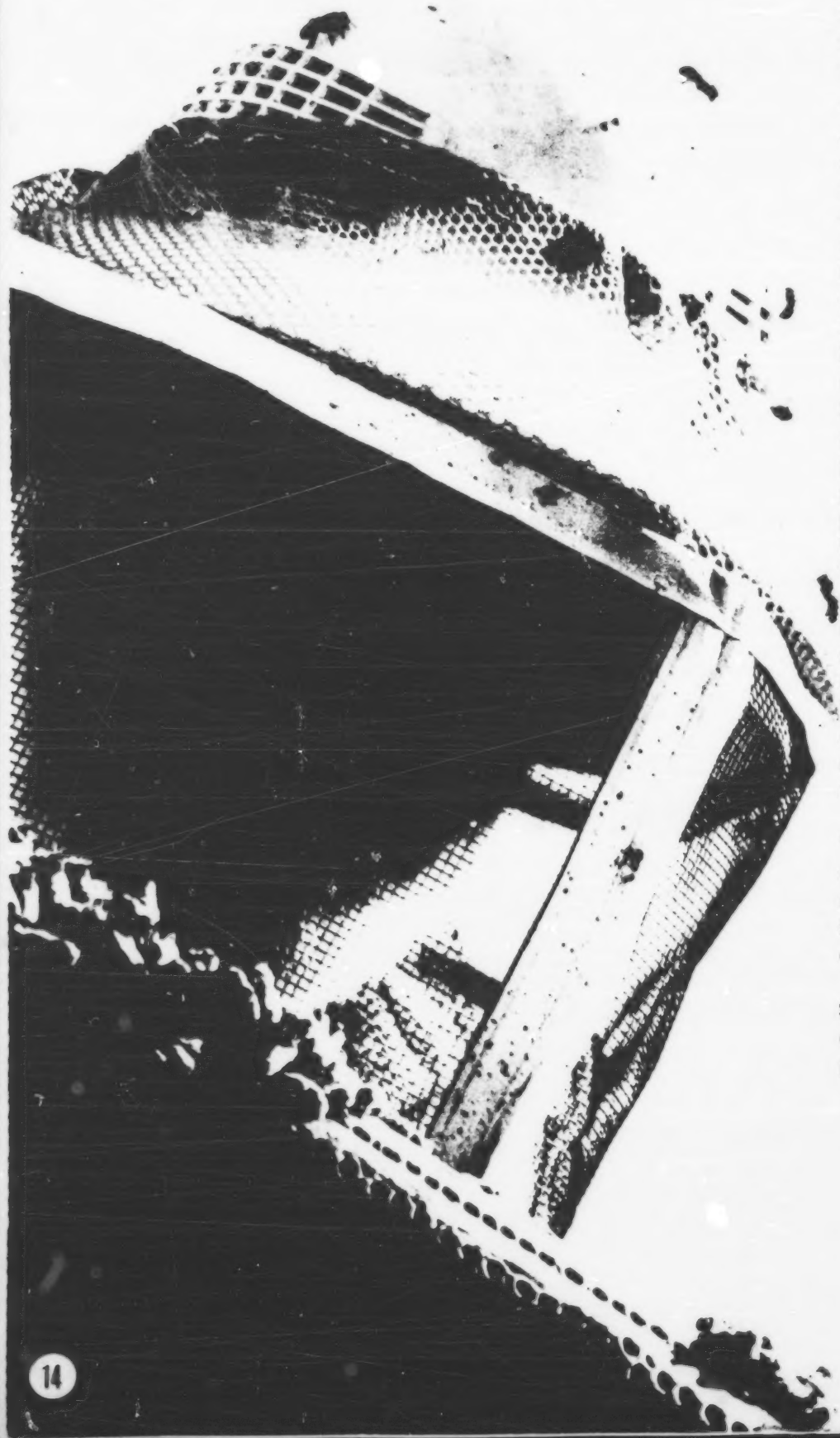
Markets for British Columbia's agricultural commodities must be maintained and, indeed, expanded if the industry is to remain healthy. With this awareness, the ARDSA program funded several projects that improved agricultural production, processing, and marketing. Three specific areas of assistance were involved.

On-farm commodity enhancement funds enabled commodity associations, for example, the B.C. Grape Growers, to receive blanket funding to undertake specific on-farm initiatives.

New and expanded markets is an area of agriculture requiring continual improvement. As such, ARDSA funds were applied by private firms and businesses, the first receivers of product from the farmer, to processing, packaging, storage, and marketing initiatives.

Agricultural support facilities and services do much to support primary producers. Assistance was provided to projects involving construction, expansion, or improvement of primary production support facilities.

Several commodity development projects are summarized in the next four pages. For a complete listing of such projects, turn to page 23.



HONEY BEE STOCK PRODUCTION.

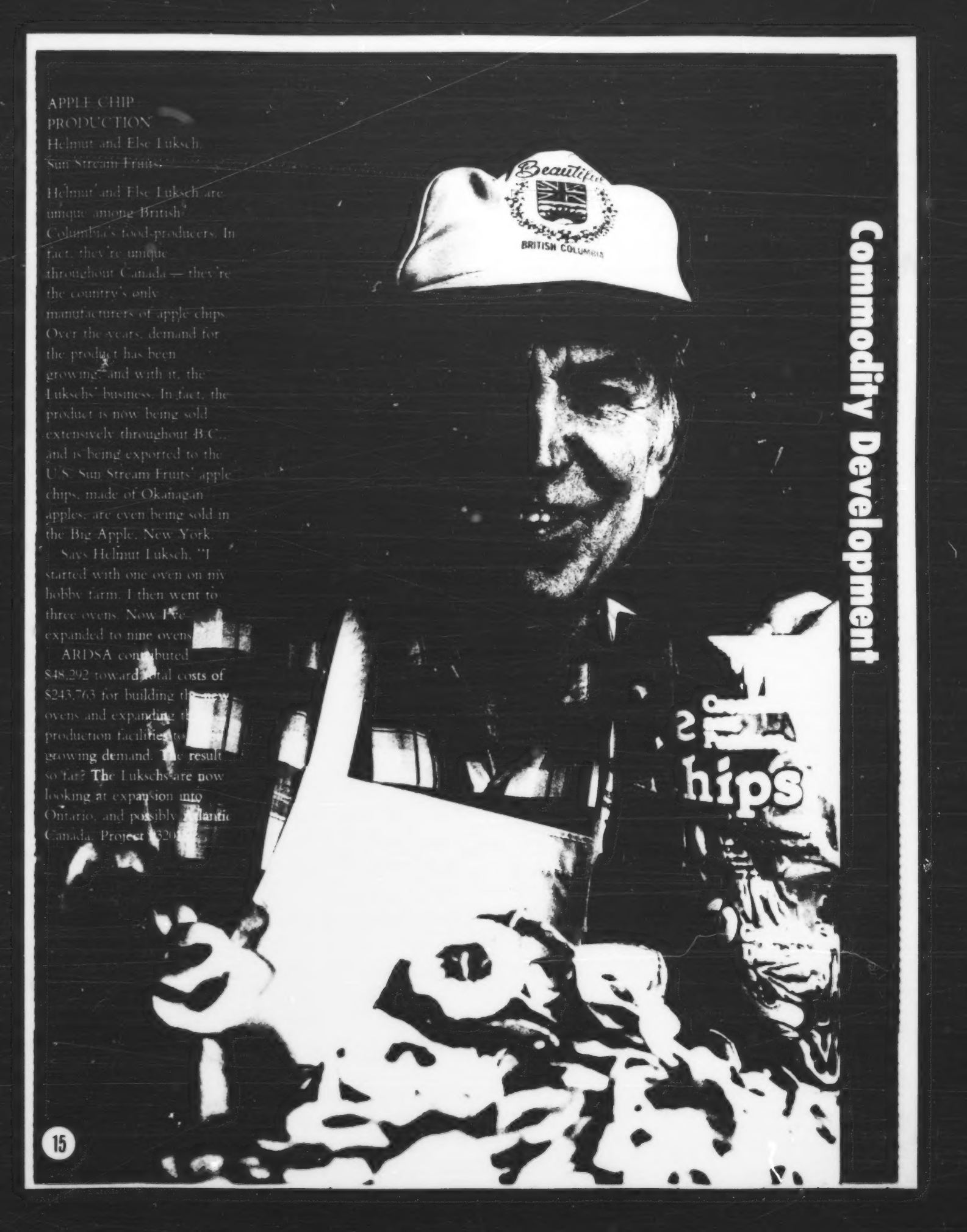
Stephen Mitchell, Secretary, B.C. Honey Producers Association

"1988 brought significant changes to the bee industry in Canada," explains Mitchell. B.C. beekeepers were faced with heavy demand for replacement bees from beekeepers in northern British Columbia, Alberta, Saskatchewan, and Manitoba. In order to capture this market, the B.C. Honey Producers Association participated in an ARDSA project to enhance production of Queens, package bees, and nucleus hives. Says Mitchell, "ARDSA helped ensure that Canadian buyers have a dependable, domestic bee stock available to meet this increased demand." Fourteen beekeepers applied for assistance to purchase or build equipment required to boost their bee stock output.

Explains Mitchell, "Program results are reflected in production for 1989 which showed a 70% to 85% increase in replacement bees over 1988 levels."

ARDSA contributed $100,000 to this $300,000 commodity enhancement project. Project #31007.

Commodity Development



APPLE CHIP PRODUCTION
Helmut and Else Luksch, Sun Stream Fruits

Helmut and Else Luksch are unique among British Columbia's food-producers. In fact, they're unique throughout Canada — they're the country's only manufacturers of apple chips. Over the years, demand for the product has been growing, and with it, the Lukschs' business. In fact, the product is now being sold extensively throughout B.C., and is being exported to the U.S. Sun Stream Fruits' apple chips, made of Okanagan apples, are even being sold in the Big Apple, New York.

Says Helmut Luksch, "I started with one oven on my hobby farm. I then went to three ovens. Now I've expanded to nine ovens."

ARDSA contributed $48,292 toward total costs of $243,763 for building the new ovens and expanding the production facilities to meet growing demand. The result so far? The Lukschs are now looking at expansion into Ontario, and possibly Atlantic Canada. Project #320[illegible]

GRAIN CLEANING PLANT.
Jarvis Taylor,
South Peace Grain Cleaning Co-Operative Association.

"Twenty-five years ago," explains Jarvis Taylor, "the local farmers got together and built a seed cleaning co-op. Well, we just wore it out".

ARDSA helped rebuild the facility by providing $312,760 towards a new $1,352,760 plant. This modern seed-cleaning plant, one of only two in B.C., was completed in 1987. The benefits of modernization have been dramatic, according to Taylor.

"Used to take me an hour to unload 2,000 bushels. Now it takes me 15 minutes. Everything's environment-safe because we're not pumping dust out. The older plant has one scale, this has two. We can now accommodate all sizes of trucks, the big tandems and rigs — we're very proud of the new plant." Efficiency has improved vastly, enabling the plant to handle the demands, during the peak season, of 400 farmers. Project #33001.

POTATO CHIP COOKER
Glen Gratton and
Terry Tershman,
Lifestream Natural Foods

Explains Glen Gratton, "We were having a potato chip product made in the U.S. The volume got to the point where we could justify putting in production capacity here in B.C."

Where previously U.S. production used U.S. potatoes, now Lifestream purchases its potatoes from farmers in the Fraser Valley. "We use local potatoes with local labour," reports Gratton. Adds Terry Tershman, Lifestream's production manager, "we use up to 50,000 lbs per week, 2,000,000 lbs per year." Nine jobs have been created as a result of Lifestream's expansion.

ARDSA contributed $88,300 towards the batch cooker necessary to produce the product here in B.C. Total project costs were $389,500. Project #3011

PROGRAM 1 PRODUCTIVITY ENHANCEMENT PROGRAM

	PROJECT #	DESCRIPTION	ARDSA CONTRIBUTION	TOTAL COST
*	11001	COMPUTERIZED PEST MANAGEMENT	$222,267	$222,267
*	11002	KIWIFRUIT COLD TOLERANCE	$46,773	$46,773
*	11003	BIOLOGICAL CONTROL OF CROWN ROT	$57,433	$57,433
*	11004	SEASON EXTENSION FOR VEGETABLES	$219,800	$219,800
*	11005	STRAWBERRY CULTIVATION SYSTEMS	$108,267	$148,254
*	11006	LIQUID FEEDING OF PIGS	$139,258	$171,258
*	11007	DEVELOPMENT OF IMMUNOGLOBULIN FORTIFIED MILK REPLACERS	$113,500	$113,500
*	11008	DEVELOPMENT OF MASS OVERWINTERING TECHNIQUES FOR HONEY BEE QUEENS	$159,950	$159,950
*	11009	STIRLING MULTI-BALE SILAGE BAGGER	$40,844	$84,088
*	11010	ANTIDOTE FOR TIMBER MILKVETCH	$120,300	$120,300
*	11011	EVALUATION OF SELECT GRAPE VARIETIES	$128,902	$169,535
*	11012	DEVELOPMENT OF AN AUTOMATED MILK RECORDING SYSTEM	$15,039	$23,297
*	11013	PRESERVATION OF FORAGE NUTRIENTS	$34,360	$34,360
*	11015	PREDATORS OF THRIPS IN GREENHOUSES & ORCHARDS	$74,842	$136,772
*	11016	ALTERNATIVE TO CHEMICAL CONTROL OF APPLE DISEASE	$78,580	$82,580
*	11017	DETECTION & CONTROL OF BLUEBERRY SCORCH, BLUEBERRY SCORCH-LIKE AND RASPBERRY LEAFSPOT VIRUSES	$24,943	$61,903
*	11018	SEQUENCING BATCH REACTOR FOR SWINE MANURE TREATMENT	$123,700	$124,700
*	11019	PEACE RIVER OMINECA VARIETY TRIALS	$452,140	$452,140
*	11020	BIOLOGICAL CONTROL OF APPLE ERMINE MOTH	$47,856	$154,826
*	11021	OKANAGAN KOOTENAY VARIETY TRIALS	$246,273	$246,273
*	11022	SOUTH COASTAL VARIETY TRIALS	$276,232	$276,232
*	11023	NORTHERN ALFALFA & GRASS VARIETY TRIALS	$234,428	$234,428
*	11024	IMPROVEMENT OF NATIVE CHRISTMAS TREE PRODUCTION	$47,000	$47,000
*	11025	NITROGEN USE IN COASTAL B.C.	$99,000	$99,000
*	11026	OPTIMIZING STRAWBERRY PRODUCTION EFFICIENCIES	$105,534	$161,440
*	11027	NEW MARKET DEVELOPMENT FOR B.C. GREENHOUSE TOMATOES & PEPPERS	$87,350	$87,350
*	11028	B.C. NATIVE PLANT INTRODUCTION PROJECT	$99,616	$135,616
*	11029	COASTAL DOUGLAS FIR CHRISTMAS TREE EVALUATION	$10,939	$10,939
*	11030	MANAGEMENT TECHNIQUES TO IMPROVE CARCASS QUALITY OF HEAVY TOM TURKEYS	$82,300	$179,900
*	11031	LETTUCE VARIETY TRIAL & STORAGE EVALUATION	$44,000	$44,000
*	11032	COMPOST OF SOLID FROM LIQUID SEPARATION OF SWINE WASTES	$49,460	$49,460
*	11033	EVALUATION OF WINTER CEREALS AS FORAGE	$93,850	$93,850
*	11034	VEGETATION MANAGEMENT IN VEGETABLES & BERRIES	$220,000	$260,661
*	11035	IMPROVING YIELD & PRODUCTION METHODS FOR FODDER CORN	$45,698	$155,535
*	11036	MANAGEMENT OF BARLEY, RYEGRASS & DOUBLE CROPPED BARLEY IN B.C.	$78,560	$78,560
*	11037	MITE IDENTIFICATION & COUNTING BY ELECTRONIC SCANNING	$17,992	$18,820
*	11038	EVALUATION OF SHELTER DESIGNS FOR LEAFCUTTING BEES IN PEACE RIVER	$27,425	$39,225
	11039	ESTABLISHMENT OF VARIETY TRIALS FOR CRANBERRY CROPS	$18,379	$18,379
*	11040	RUMEN PROTEIN DEGRADABILITY OF FEED	$99,944	$156,134
*	11041	DUST CONTROL IN LIVESTOCK BUILDINGS	$78,300	$91,300
*	11042	CONTROL OF POTATO SILVER SCURF	$89,716	$99,685
*	11043	EVALUATION OF PROGESTERONE IN SOWS	$28,000	$56,000
	11045	B.C. GREENHOUSE CUCUMBER QUALITY IMPROVEMENT	$96,800	$96,800
*	11046	NON-CHEMICAL WEED CONTROL FOR ORCHARDS	$30,000	$30,000
	11047	DETERMINATION OF THE POTENTIAL OF AUGMENTATION OF PREDATORS OF KEY PEAR PESTS	$99,476	$110,476
	11048	REDUCING POST-HARVEST LOSSES IN FRESH MARKET CARROTS	$63,500	$73,500
	11049	ARDSA VARIETY TRIAL EXTENSION	$350,000	$350,000
		11049-1 European Grape Variety Trial	$15,000	$19,925
		11049-2 Lettuce Variety Trials and Storage Evaulation	$15,000	$20,000
		11049-3 Vegetation Management in Vegetables and Berries	$75,000	$100,000
	11050	ROOT LESION NEMATODE	$30,280	$37,850
	11051	REDUCING BROILER MORTALITY BY IMPROVED LIGHTING & HEATING	$23,300	$51,400
*	12004	PROFITABLE COLONY MANAGEMENT FOLLOWING PACKAGE BEE PRODUCTION	$6,725	$8,405
*	12005	COMMERCIAL INDOOR OVERWINTERING OF BEES IN THE PEACE RIVER AREA	$43,760	$74,372

*Indicates all project reports available as of January 1991. They can be obtained through B.C. Ministry of Agriculture and Fisheries by calling (604) 356-1822

PLEASE NOTE: Project numbers may not be sequential. Where project numbers have been eliminated, this indicates the project has been withdrawn.

PROJECT #	DESCRIPTION	ARDSA CONTRIBUTION	TOTAL COST
12006	PROGRAM FOR AGRICULTURE TECHNOLOGY TRANSFER	$750,000	$1,125,000
* 12006-1	Mushroom Spawned Bricks	$9,967	$14,950
* 12006-2	ATV Attachments for High Density Orchard Management	$4,292	$4,737
* 12006-3	Hog Effluent Disposal System	$10,005	$15,007
* 12006-4	Wild Rice Production	$7,542	$11,313
12006-5	Deer Repellent in Okanagan	$11,500	$17,250
* 12006-6	Computer Controlled Environment in Broiler Production Barns	$11,499	$17,248
12006-7	Communication Plan	$56,648	$84,972
* 12006-8	Windbill Spray Canopy	$11,169	$17,250
* 12006-9	Strawberry Production in High Density Raised Beds	$11,500	$17,250
12006-11	Multi-Row Plantings in High Density Orchards	$9,970	$14,955
* 12006-13	Natural Ventilation in a Turkey Growing Barn	$11,500	$17,250
* 12006-14	Brussel Sprout Harvester	$11,500	$17,250
* 12006-15	Grape Training Technology Demonstration	$10,334	$15,501
* 12006-16	High Density Yellow Cherry (Rainer) Production	$2,185	$3,277
* 12006-17	Elstar Apple Variety & System Trial	$2,553	$3,829
12006-19	Lettuce Quality Demonstration	$11,191	$17,250
12006-20	Automated Mink Feeding	$9,200	$13,800
* 12006-21	Ditch Waste Material Distribution	$9,200	$13,800
12006-22	Dryland Hay & Pasture Production in the Cariboo	$7,187	$10,781
12006-23	Short Duration Grazing System on Irrigated Pasture	$11,500	$17,250
12006-24	Tree Mover	$2,430	$3,645
* 12006-25	Fruit Tree Nursery in a Pot Medium	$7,464	$13,141
12006-27	Cranberry Bog Sand Sprayer	$11,500	$17,250
12006-28	Irrigation for Hay and Pasture	$9,583	$14,375
* 12006-29	Mechanical Root and Rock Picker	$11,500	$17,250
12006-30	Dairy Manure Handling System	$11,500	$17,250
* 12006-33	Cooling Station for Tart Cherries	$9,583	$14,375
* 12006-34	Sheep Grazing on Cutblocks	$11,500	$17,250
* 12006-35	B & B Ginseng (Coring Kiln)	$11,436	$22,650
* 12006-36	B & B Ginseng (Ginseng Digger)	$9,161	$14,175
* 12006-38	Low Pressure Autoclave for Shiitake Mushrooms	$11,500	$18,250
* 12006-41	Broiler Chickens - Lighting Control System	$11,149	$16,724
12006-42	Feathered Nursery Trial Using Chip Budding & Bench Grafting	$11,489	$17,234
12006-45	Feathered Appled Trees in a Fertigated Potted Medium	$9,810	$18,260
* 12006-47	All Terrain Air Pruning System	$4,723	$7,084
12006-48	Disease Free Raspberry and Blueberry Plants in Soils Media	$7,682	$11,523
12006-50	High Density Trellised Cherry	$8,663	$12,995
* 12006-51	Anti-Codling Moth Fruit Cover	$1,060	$2,300
12006-52	Electronic Transponder Dairy Feeding System	$4,370	$6,555
12006-53	Demonstration of the Placement and Reliability of Transponders	$10,750	$20,720
12006-54	Leafcutter Bee Incubation Facility	$11,500	$31,050
* 12006-55	Growth Comparison of Field Corn Versus Potted Nursery Stock	$9,328	$13,992
12006-56	Jonagold Sunscald Prevention - Microsprinklers	$709	$1,064
* 12006-57	Jonagold Sunscald Prevention - Sunscreen	$5,221	$7,832
12006-58	Infra-Red Survey for Cranberries	$6,488	$9,732
12006-59	Dewatering Swine Effluent Sludge	$11,500	$27,250
12006-60	Hydroponic Rootstock Production	$10,389	$15,583
12006-61	Computerized Climate Control for Overwintering Honeybees	$8,203	$12,305
12006-62	Wool Sorting and Grading Equipment	$7,475	$11,213
* 12006-63	Mushroom Spawning and Casing Machinery Demonstration	$11,500	$31,500
* 12006-65	Seaweed Foliar Feeding Trial	$2,760	$4,140
12006-67	Sewage Based Composts for Organic Production	$9,783	$14,674
12006-68	Carrot Clipping for Control of Oversizing and Disease	$11,347	$17,020
* 12006-69	Comparison of Standard August Budded Rootstock with Sleeping Eye Type Budded Root	$1,161	$2,632
* 12006-70	Effect of Degree of Feathering on Transplant of Fuji Apple Trees	$6,059	$9,089
* 12006-71	Jonagold Sunscald Prevention - Cyclical Water Application	$4,048	$6,072
* 12006-72	Cross Slot Seeder Demonstration	$5,838	$23,967
12006-73	Sweet Cherry Field Grading / Cooling	$11,500	$22,895
12006-74	Used Fence Wire Roller	$1,533	$2,300
12006-75	Protection of Winter Crops from Migratory Waterfowl Damage by Winter Wheat Plantings	$9,910	$30,864
12006-76	Reflective Insulation in a Turkey Grow Barn	$11,500	$20,731
12006-78	Mechanical Treatment of Dilute Swine Manure	$11,500	$17,250
* 12007	DEMONSTRATION OF APPLE CIDER PRODUCTION	$10,000	$15,000
* 12008	DEMONSTRATION OF SASKATOON BERRIES IN THE PEACE RIVER AREA	$10,686	$34,270
* 12009	DEMONSTRATION OF NEW TECHNOLOGY IN A BROILER EGG LAYING BARN	$9,561	$14,342
* 12010	DEMONSTRATION OF PRACTICAL METHODS OF GROWING FEATHERED TREES	$11,500	$17,250
* 12011	SEED POTATO TISSUE CULTURE	$171,662	$217,477
* 12012	ORCHARD SPRAYING COMPUTERIZED TREE ROW VOLUME METHOD	$10,786	$16,179
12013	COMMERCIAL GREENHOUSE GROWING CHERRY TOMATOES AS A NEW CROP IN B.C.	$17,720	$51,160
12014	INTEGRATED PEST MANAGEMENT FOR VANCOUVER ISLAND	$20,144	$22,144
12015	B.C. PEACE RIVER CANOLA PRODUCTION CENTRE PILOT PROJECTS	$27,904	$27,904
12016	COMPUTERIZED SWINE MANAGEMENT RECORD KEEPING	$9,190	$14,950

PROGRAM 1 PRODUCTIVITY ENHANCEMENT PROGRAM

	PROJECT #	DESCRIPTION	ARDSA CONTRIBUTION	TOTAL COST
*	13001	GINSENG MARKETING STUDY	$24,954	$24,954
*	13002	HAZELNUT MARKETING STUDY	$20,000	$20,000
*	13003	WINE JUDGING FOR THE 1988 OKANAGAN WINE FEST	$6,850	$39,500
*	13004	SWINE MANURE COMPOST MARKETING STUDY	$20,000	$20,000
*	13005	ASSESSMENT OF MARKET POTENTIAL AND ECONOMIC VIABILITY OF A WHEY BASED PRODUCT	$103,338	$212,106
*	13006	STUDY OF THE MARKET POTENTIAL FOR GRASS SEED IN B.C.	$30,000	$30,000
	13007	COMPETITIVENESS OF THE B.C. VEGETABLE AND STRAWBERRY PROCESSORS	$34,500	$40,500
	13008	ORGANIC PRODUCTS CERTIFICATION	$42,300	$47,000
	13009	B.C. DEER FARM INDUSTRY MARKET ASSESSMENT AND MARKETING STRATEGY DEVELOPMENT	$17,500	$20,500
	13010	PEACE COUNTRY BISON MARKET RESEARCH	$17,500	$20,500
	13011	EVALUATION OF THE MARKET POTENTIAL FOR B.C. GROWN CHRISTMAS TREES	$17,500	$20,500
	13012	IDENTIFYING KEY FACTORS AFFECTING DEMAND FOR THOROUGHBRED RACEHORSES IN B.C.	$13,000	$18,000
	13013	BUFFALO MEAT PRODUCTIVITY ENHANCEMENT	$25,760	$51,520
	14001	SPECIALITY MUSHROOM CULTIVATION SHORT COURSE	$964	$6,876
*	14002	PORK EXPO '87	$40,000	$79,000
*	14003	FARM AND RANCH MANAGEMENT	$7,476	$8,896
*	14004	RURAL WOMEN'S SEMINAR ON FARM BUSINESS MANAGEMENT	$2,888	$9,250
*	14005	PESTICIDE APPLICATOR'S COURSE	$21,000	$81,000
*	14006	SHORT DURATION GRAZING SEMINAR	$2,603	$9,631
*	14007	EXTENDING THE SEASON OF VEGETABLES AND BERRIES	$2,196	$2,196
*	14008	TRACHEAL MITE SYMPOSIUM / SEMINAR	$6,000	$8,200
*	14009	FACILITATION OF THE ADOPTION OF BIOLOGICALLY BASED INTEGRATED CROP MANAGEMENT METHODS FOR OKANAGAN PEAR GROWERS	$51,820	$55,820
*	14011	HEALTH MANAGEMENT OF FARMED FALLOW DEER	$35,800	$43,590
	14012	FARM MANAGEMENT TRAINING PROJECT	$30,000	$31,500
*	15001	PLANNING STUDY FOR STERILE CODLING MOTH RELEASE PROGRAM	$45,851	$45,851
*	15002	FEASIBILITY STUDY AND BUSINESS PLAN FOR AN AGRICULTURE AND FOOD POLICY INSTITUTE	$11,844	$11,844
*	15003	ROOT CROPS PACKING SYSTEM IMPROVEMENT STUDY	$31,002	$36,732
*	15004	VANCOUVER ISLAND FRUIT MARKET FEASIBILITY STUDY	$28,574	$28,574
*	15005	B.C. IRRIGATION DISTRICTS - EVALUATION STUDY	$54,902	$54,902
	15006	COMMODITY STRATEGY RESEARCH	$245,000	$245,000
	* 15006-1	B.C. Sheep and Wool Industry Strategy Research	$20,750	$20,751
	* 15006-2	Grains & Seeds Industry Research	$24,500	$24,500
	* 15006-3	Beef Industry Research Assistance	$30,000	$30,000
	15006-4	B.C. Nursery Crops Research	$30,000	$30,000
	15006-5	Forage Industry Strategy	$15,000	$15,000
	15006-6	Poultry Industry Development Plan	$30,000	$30,000
	15006-7	Pork & Veal Industry Strategy	$14,750	$14,750
	15006-8	Dairy Industry Development Plan	$30,000	$30,000
	15006-9	Floriculture Survey	$5,000	$5,000
	15006-10	Mushroom / Blueberry / Cranberry Research	$18,000	$18,000
	15006-11	Fresh Vegetable Industry	$7,000	$7,000
	15006-12	High Energy Forage Study	$28,100	$28,100
*	15007	MUSHROOM COMPOST TECHNICAL EVALUATION	$30,000	$60,000
	15008	BOUNDARY BAY STUDY	$50,000	$50,000
	15009	AGRI-FOOD DEVELOPMENT PLANNING STUDIES	$30,000	$30,000
	16001	PUBLIC INFORMATION	$232,800	$232,800
	16002	PUBLIC INFORMATION SUPPORT	$100,615	$100,615
	16003	EVALUATION SUPPORT	$101,008	$101,008
	16004	AGREEMENT FINANCIAL AUDITS	$30,000	$30,000
	16005	EVALUATION DATA COMPILATION AND ANALYSIS	$13,015	$13,015
	16006	CONSULTING FEES - PROGRAM 1 APPLICATION EVALUATION	$55,000	$55,000
	16007	PUBLIC INFORMATION SUPPORT / SUMMER 1989	$10,514	$10,514
*	16008	ANALYSES OF THE PUBLIC'S PERCEPTION OF B.C.'S AGRICULTURE AND FOOD INDUSTRY	$37,183	$47,670
	16009	ARDSA GENERAL AGREEMENT EVALUATION	$90,000	$90,000
	16010	ARDSA - FOCUSED EVALUATION STUDIES	$150,000	$150,000
	* 16010-1	ARDSA - Focused Evaluation Studies Subprogram 3.2 & 3.3	$45,000	$45,000
	16010-2	Resource Development Evaluation	$75,000	$75,000
	16011	PUBLIC INFORMATION SUPPORT - SPRING 1990	$1,326	$1,326
	16012	PUBLIC INFORMATION SUPPORT - FALL 1990	$20,640	$20,640
	16013	ARDSA EVALUATION DATABASE INPUT	$8,500	$8,500

PROJECT #	DESCRIPTION	ARDSA CONTRIBUTION	TOTAL COST
21001	REGIONAL IRRIGATION AND WATER SUPPLY SYSTEMS - STUDY FUNDS	$400,000	$400,000
21001-1	Atamanenko and Associates	$17,617	$17,617
21001-2	Grand Forks Irrigation District - Groundwater Study	$137,973	$137,973
21001-3	Grandview Waterworks District - Groundwater Study	$71,174	$71,174
21001-4	Allendale Water Users Community Dam Reconstruction Study	$5,936	$5,936
21001-5	North Canyon Improvement District Study	$19,594	$19,594
21001-6	Toosey Indian Band	$3,500	$3,500
21001-7	East Richmond - Terms of Reference	$5,000	$5,000
21002	REGIONAL IRRIGATION AND WATER SUPPLY SYSTEMS - SMALL PROJECTS	$450,000	$600,000
21002-1	Larch Hills Water Users Community	$24,498	$33,042
21002-2	Allendale Water Users Community	$18,900	$25,200
21002-3	Sun Valley Improvement District Expansion (Bevanda)	$12,759	$17,345
21002-4	McKinney Road Water Users Community	$13,179	$17,571
21002-5	Trepanier Ditch Improvement	$9,002	$16,435
21002-6	Campbell Creek Water Users Community	$9,429	$12,571
21002-7	Lucille Mountain Water Users Community	$19,950	$90,000
21003	COVERT IRRIGATION PROJECT	$146,446	$201,300
21004	S.O.L.I.D. - BLACK SAGE AMALGAMATION	$48,904	$65,205
21005	ST. MARY'S PRAIRIE IRRIGATION DISTRICT	$47,406	$63,208
21006	OSOYOOS INDIAN BAND VINEYARD EXPANSION	$37,466	$49,954
21007	VERMILION IRRIGATION DISTRICT	$98,260	$131,013
21008	OLDFIELD ROAD WATERMAIN EXTENSION	$211,386	$281,849
21009	NICOLA LAKE DAM	$311,944	$430,000
21010	ALLENDALE COMMUNITY DAM RECONSTRUCTION PROJECT	$44,982	$59,976
21011	GRAND FORKS IRRIGATION DISTRICT	$1,927,876	$2,570,500
21012	DROUGHT ASSISTANCE WATER SUPPLY DEVELOPMENT PROGRAM	$310,984	$506,111
21012-1	Naramata Irrigation District	$310,984	$506,111
21013	KAMLOOPS INDIAN BAND IRRIGATION PROJECT	$64,500	$86,000
21014	NORTH CANYON IMPROVEMENT DISTRICT	$229,600	$306,133
21015	TOOSEY INDIAN BAND IRRIGATION PROJECT	$99,000	$132,000
21016	LAC LA HACHE IRRIGATION	$26,542	$35,389
21017	PENTICTON ELLIS #2	$21,354	$28,472
21018	WALTON PLACE WATERMAIN	$24,518	$32,690
21019	BURROWS DITCH IRRIGATION	$63,750	$85,000
21020	PEMBERTON VALLEY DYKING DISTRICT	$212,719	$283,625
21021	EAST RICHMOND IRRIGATION STUDY	$77,944	$77,944
21022	HEFFLEY IRRIGATION DISTRICT	$73,125	$97,500
21023	NESKONLITH INDIAN BAND	$213,750	$285,000
21024	SHUMWAY LAKE DAM	$36,000	$48,000
21025	EAST RICHMOND IRRIGATION	$1,439,500	$2,879,000
21026	BONAPARTE LAKE DAM	$37,500	$150,000
22001	WATERSHED DRAINAGE SYSTEMS STUDY FUNDS	$200,000	$200,000
22001-1	Watershed Drainage Systems Study Funds	$9,100	$9,100
22001-2	Watershed Drainage Systems Study Funds	$9,617	$9,617
22001-3	Central Surrey Drainage District Study	$11,980	$11,980
22001-4	Nicomen Island Seepage	$1,977	$1,977
22001-5	Chilliwack - Dunville Creek Study	$23,334	$23,334
22001-6	Panorama Study	$35,000	$35,000
22003	ABBOTSFORD - SUMAS RIVER DREDGING	$107,302	$107,302
22004	ROLLA CREEK DRAINAGE PROJECT	$67,150	$89,533
22005	COURTENAY FLATS DRAINAGE STUDY	$40,593	$40,593
22006	NICOMEN ISLAND IMPROVEMENT DISTRICT - DRAINAGE STUDY	$43,192	$43,192
22007	MATSQUI DRAINAGE PROJECT - ENGINEERING STUDY	$93,720	$93,720
22008	ABBOTSFORD - SUMAS RIVER DREDGING	$525,852	$701,136
22009	COURTENAY FLATS DRAINAGE	$233,740	$311,718
22010	SURREY - COLEBROOK DRAINAGE	$28,788	$28,788
22011	PITT MEADOWS #2 DYKING AND DRAINAGE	$489,099	$652,131
22012	CENTRAL SURREY DRAINAGE PROJECT	$317,250	$423,000
22013	NICOMEN ISLAND IMPROVEMENT DISTRICT - DRAINAGE STUDY	$990,000	$1,320,000
22014	MATSQUI PRAIRIE DRAINAGE AND IRRIGATION PROJECT	$5,325,000	$7,100,000
22015	ERICKSON DITCH DRAINAGE	$42,960	$42,960
22016	NICKS ISLAND DYKING DISTRICT	$83,452	$111,271
22017	SURREY - COLEBROOK DRAINAGE	$1,101,000	$1,468,000

PROGRAM 2 RESOURCE DEVELOPMENT PROGRAM

PROJECT #		DESCRIPTION	ARDSA CONTRIBUTION	TOTAL COST
22019		ERICKSON DITCH DRAINAGE	$1,206,000	$1,608,000
22020		CRESTON DYKING DISTRICT	$122,004	$162,673
22021		SUMAS CANAL	$67,500	$90,000
22022		BURNABY MEADOW STREET	$73,500	$98,000
22023		DUNVILLE CREEK DRAINAGE	$222,750	$297,000
23002		EROSION ABATEMENT DEMONSTRATION PROJECT	$16,766	$16,766
23003		SOIL DRAINAGE AND COMPACTION PROBLEMS AND THEIR EFFECTS ON FORAGE AND CORN YIELDS IN THE MATSQUI PRAIRIE	$173,034	$173,034
23004		AN ECONOMIC ASSESSMENT OF SOIL CONSERVATION UNDER THREE TILLAGE SYSTEMS	$257,865	$257,865
23005		CLAYHURST CONSERVATION TILLAGE PROJECT	$20,124	$60,374
23006		PEACE RIVER SOIL CONSERVATION ASSOCIATION	$467,100	$504,000
23007		U.B.C. - INTENSIVE WINTER CEREAL PRODUCTION FOR SOUTH COASTAL B.C.	$303,869	$303,869
23008		SOIL STRUCTURE MANAGEMENT TECHNIQUES	$106,624	$106,624
23009		BEAVER MEADOW FARMS	$9,889	$46,889
23010		SOIL DEGRADATION AND RURAL LAND USE CHANGE	$42,500	$42,500
23011		THREE TILLAGE DATA ANALYSIS	$40,000	$40,000
24001		WATER CONSERVATION AND IMPROVEMENT - STUDY FUNDS	$50,000	$50,000
	24001-1	Boco Holdings	$1,500	$2,421
	24001-4	Knouff Lake Dam	$1,500	$3,000
	24001-5	Nicola Ranch - Helmer Lake Dam	$1,500	$6,000
	24001-7	Gwen Lake Dam	$1,500	$3,500
	24001-8	Lower Nicola Indian Band	$1,500	$3,000
	24001-9	Wiggins Lake Dam	$1,500	$3,000
	24001-10	Lac La Hache	$1,371	$1,371
	24001-11	Dairy Lakes - Norman Lake	$1,500	$3,000
	24001-12	Brigham Lake Dam	$1,500	$4,850
	24001-13	Veith Lake	$1,500	$1,500
24002		WATER CONSERVATION AND IMPROVEMENT - SMALL PROJECTS	$344,000	$1,134,000
	24002-1	Bey's Pumphouse	$14,242	$106,500
	24002-2	Big Meadow Lake Dam	$12,238	$43,077
	24002-3	Labounty Irrigation	$13,521	$40,563
	24002-5	Robertson Creek Irrigation	$6,666	$70,200
	24002-6	Nipple Mountain Farm Irrigation Water Supply	$9,433	$28,300
	24002-7	Upper Twin Lake Dam	$1,218	$3,462
	24002-8	Telcor Investments Ltd.	$9,351	$28,939
	24002-9	Luy Irrigation	$3,554	$10,661
	24002-10	6 Mile Ranch - Duffy Lake	$15,000	$48,600
	24002-11	Indian Gardens Ranch	$4,519	$13,557
	24002-12	Stirrup Ranch Siphon	$6,121	$18,363
	24002-13	Gwen Lake Dam	$1,725	$5,180
	24002-14	Guichon Creek Diversion	$15,143	$20,572
	24002-15	Dominic Lake Dam	$22,389	$54,851
	24002-17	McNutt Creek Water Development	$2,833	$8,500
	24002-18	McLeese Lake Dam	$10,178	$13,572
	24002-20	Mow Creek Irrigation	$3,471	$10,414
	24002-21	Fowler Creek Division Project	$19,074	$25,431
	24002-24	Morehead Valley	$15,000	$61,650
	24002-25	Helmer Lake Dam	$15,000	$77,000
	24002-26	Smith Meadow Irrigation	$1,474	$4,422
	24002-27	Hogan Lake Irrigation	$8,000	$24,000
	24002-28	Alex Lake Pipeline	$13,334	$40,000
	24002-29	Bolton Ranch Irrigation	$15,000	$60,625
	24002-31	Sudweeks Irrigation	$7,700	$23,100
24003		NORTH LALUWISSIN DIVERSION - REUTER / FENNEL	$7,356	$9,807
24004		MACKIN CREEK DIVERSION DAM	$28,036	$37,381
24005		KNOUFF LAKE DAM	$30,000	$60,000
24006		DAIRY LAKES WATERSHED IMPROVEMENT	$30,112	$40,150
24007		HALL - BARCLAY IRRIGATION	$30,000	$89,000
24008		KNIFE CREEK WATER SYSTEM	$37,500	$50,000
24009		NORMAN LAKE DAM	$30,000	$40,000
24010		BRIGHAM LAKE DAM	$33,750	$45,000
24011		VEITH LAKE DAM	$6,000	$18,000

PROGRAM 3 COMMODITY DEVELOPMENT PROGRAM

PROJECT #	DESCRIPTION	ARDSA CONTRIBUTION	TOTAL COST
31001	WINE RATIONALIZATION PROGRAM	$1,500,000	$8,980,000
31003	BEEF CATTLE INDUSTRY FEED STORAGE PROGRAM	$1,297,773	$3,893,319
31004	B.C. FRUIT GROWERS' ASSOCIATION - ORCHARD RENOVATION PROGRAM	$3,000,000	$9,000,000
31006	BEEF INDUSTRY WATER SUPPLY PROGRAM	$439,990	$1,319,971
31007	HONEY BEE STOCK PRODUCTION PROGRAM	$78,987	$236,961
31008	GRAIN DRYING IN B.C.	$340,000	$1,020,000
31009	B.C. SEED POTATO GROWERS' ASSOCIATION	$142,827	$455,800
32001	NEW OR EXPANDED MARKET FACILITIES / AGRICULTURAL SUPPORT FACILITIES - CONSULTING FEES	$600,000	$600,000
32002	H.K. WONG ENTERPRISES (KWONG LEE FARMS)	$189,008	$1,054,041
32003	WESTERN GREENHOUSE GROWERS' COOPERATIVE ASSOCIATION	$240,614	$1,203,070
32004	PIONEER COUNTRY MARKET	$13,680	$112,825
32005	KIM MAYGARD - VEGETABLE PACKING PLANT	$26,050	$109,824
32006	BEAVEN'S ORCHARD CANNERY LTD.	$41,667	$210,000
32007	DANAPA HOLDINGS LTD. / DEBOER'S STOCK FARMS LTD.	$135,300	$451,000
32008	ROYAL CITY FOODS LTD.	$99,490	$668,448
32009	SOO SINGAPORE JERKY LTD.	$48,900	$230,921
32011	LIFESTREAM NATURAL FOODS LTD.	$88,300	$389,500
32012	SANDEL FOODS INC.	$470,585	$1,988,162
32013	OKANAGAN DRIED FRUITS LTD.	$80,000	$692,500
32014	HAINLE VINEYARDS ESTATE WINERY	$72,000	$385,000
32015	SUNSTREAM FRUITS LTD.	$48,292	$243,763
32016	TESTALINDA HOLDINGS CO. LTD.	$56,480	$257,550
32017	INTERCONTINENTAL PACKERS LTD.	$375,000	$2,035,000
32018	SUN DEW FOODS LTD.	$73,640	$368,200
32019	WHEY PROTEIN CONCENTRATE	$150,000	$825,000
32020	ROYAL CITY FOODS LTD.	$143,600	$718,000
32021	WESTERN GREENHOUSE GROWERS' CO-OPERATIVE	$93,635	$936,357
32022	SPECIALTY HONEY PRODUCTS LTD.	$38,441	$172,495
32023	WYDER'S PREMIUM APPLE CIDER	$97,436	$355,100
32024	GAMBRINUS MALTING CORP.	$325,000	1,984,000
33001	SOUTH PEACE GRAIN CLEANING COOPERATIVE ASSOCIATION	$312,760	$1,352,759
33002	INTERIOR REFORESTATION CO. LTD.	$20,300	$138,200
33003	HONEY BEE HOLDINGS LTD. (KELOWNA APIARIES)	$12,335	$82,335
33004	ISLAND LIME PRODUCTS LTD.	$19,667	$59,000
33006	APPLIED BIO-NOMICS LTD.	$15,565	$46,695
33007	BEVO FARMS LTD.	$500,000	$2,340,000
33008	HUDSON'S HOPE FEED LTD.	$11,413	$57,065
33009	BARCELONA HAZELNUT PROCESSORS	$95,665	$431,000
33010	SAANICH PACKING AND COLD STORAGE	$250,000	$1,564,240
33011	INTERIOR REFORESTATION CO. LTD. (2)	$10,000	$50,000
33012	CRESTON CO-OP PACKERS LTD.	$187,800	$1,163,000
33013	RICHMAY FARMS LTD.	$16,650	$88,300
33014	APPLIED BIO-NOMICS LTD.	$86,000	$480,000
33015	B.C. BLUEBERRY CO-OPERATIVE	$94,240	$526,000
33016	STERILE INSECT RELEASE PROGRAM	$368,015	$368,015

TOTAL # OF APPROVED PROJECTS = 394 PROJECTED ARDSA CONTRIBUTION = 39,377,675 *** PROJECTED TOTAL EXPENDITURES = 86,248,069

***Because of the nature of the ARDSA agreement projects are not required to be complete until October 31, 1991 Therefore figures used in this publication are projections based on information available as of January 31, 1991